

# INPLASY PROTOCOL

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None declared.

## Indications for Surgical Removal of Impacted Mandibular Third Molars in Individuals Aged 17-30: a Systematic Review

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Thomson P<sup>6</sup>.

**Review question / Objective:** What are the indications for surgical removal of impacted mandibular third molars? Should the indications for individuals aged 17-30 be different to other age brackets? Are their consequences for leaving impacted mandibular third molars? What are they?

**Condition being studied:** Impacted mandibular third molars (IM3M's) are common clinical presentation for dental practitioners requiring careful management. Due to their unique presentation in each case, their affect on the adjacent structures comes into question, particularly the mandibular 2nd molar (M2M). Although it is well supported that diseased, symptomatic IM3M's are indicated for extraction, the literature in support of non-diseased, asymptomatic "prophylactic" removal of IM3M's may be viewed as limited and is contention. It has become more apparent following the NICE Guidelines that surgical removal of IM3M's only be completed in the case of disease (ie. Recurrent Pericoronitis). But, as a result, research identifies the ever so apparent risks of long term IM3M retention until they cause problems which still require their extraction and sometimes include the M2M (due to distal cervical caries or periodontal issues etc.).

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 September 2022 and was last updated on 17 September 2022 (registration number INPLASY202290077).

### INTRODUCTION

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## METHODS

**Participant or population:** Impacted mandibular third molars in individuals aged 17-30.

**Intervention:** Surgical Extraction of Impacted Mandibular Third Molars.

**Comparator:** N/A.

**Study designs to be included:** Cohort Studies (Retrospective & Prospective) & Case - Control Studies.

**Eligibility criteria:** 1. Individuals aged 17-30; 2. Individuals presenting with impacted mandibular third molars.

**Information sources:** Electronic Databases (Cochrane Library, SCOPUS, Medline/PubMed, CINAHL) & Grey Literature (openSIGLE). The search period will include literature published until May, 2022 and the following [MeSH] keywords will be included "Lower Molar, Third; Extraction; Removal; etc."

**Main outcome(s):** Production of a group of recommendations to assist practitioners in the clinical decision making process for

identifying appropriate management of Impacted Mandibular Third Molars. A reduction in the incidence of associated conditions caused by the retention of impacted mandibular 3rd molar teeth. A reduction in the incidence of post-operative complications following unnecessary extraction of impacted mandibular 3rd molar teeth. Establishing a more tailored list of indications for surgical removal of Impacted Mandibular Third Molars with individuals aged 17-25.

**Data management:** Selection: Five review authors will be involved in the selection of studies from databases using string-based searches. All references will be compiled in an Endnote Library. The initial elimination will be deletion of duplicate studies through the Endnote software. The second elimination will be based on the title and abstract of the source against the groups predetermined criteria with the assistance of Covidence online software. Each author will independently eliminate studies from an assigned database and any discordance will be resolved through a discussion and vote with the five review authors following discussions with the Research supervisor. Data Extraction: In order to review information, data will be recorded into Endnote and/or Excel spreadsheet. The data extracted will include: the citation, the study type and design, methodology, study objective, participant demographics, comparison groups and the indications/intervention for treatment. Any disagreements between individual decisions will be resolved by the remaining four group members.

**Quality assessment / Risk of bias analysis:** Selection bias and problems with comparability of participants is unlikely. Detection and performance bias will also be considered. Consideration of attrition bias and missing information will be included. The risk of bias can be summarised across domains; study across outcomes and outcome within a study. A formal risk assessment is to be carried out. The Risk of Bias "ROBINS-I - For Intervention" tool will be implemented to aid in data synthesis identified the risk of

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bias. The Robvis visual checklist bias tool will be utilised additionally to visually present these findings (Risk of bias tools - robvis, visualization tool). There will be 5 review members involved in the quality assessment. Any disagreements or conflicts will be resolved between the review members through a mediation and reflection process. The project supervisor may intervene where deemed necessary.

**Strategy of data synthesis:** Individual studies will be analysed with a qualitative and narrative synthesis approach. Individual summaries of each paper will be completed and then all findings will be collated to discuss similarities, differences and associated relationships.

**Subgroup analysis:** None.

**Sensitivity analysis:** None.

**Country(ies) involved:** Australia.

**Keywords:** Systematic review; indications; impacted mandibular third molar; surgical removal.

**Contributions of each author:**

Author 1 - Callum Lupton.

Author 2 - Thomas Dolzan.

Author 3 - Maayer Malick.

Author 4 - Gacenga Njoroge.

Author 5 - Henry Kean.

Author 6 - Peter Thomson.